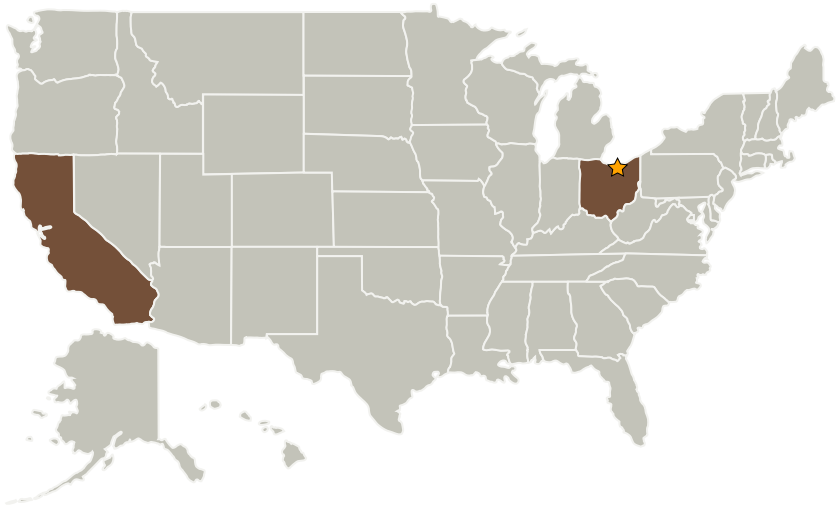
# Optimization of Weight Including Damage Scenarios, Phase I

Completed Technology Project (2008 - 2008)

## Project Introduction

M4 Engineering proposes to develop a method of incorporating several analyses into one process and then optimizing the structure. This method will allow for significant weight savings of structural compoents by incorporating analyses for damage tolerance, and durability in the design phase. Damage tolerance analyses, especially, have been difficult to iterate on since it has been time consuming to create models of each damage condition. The proposed method will be a highly efficient and useful method in reducing weight of structures.

## Primary U.S. Work Locations and Key Partners



| Organizations Performing Work | Role | Type | Location |
|---|---|---|---|
| ★Glenn Research Center(GRC) | Lead Organization | NASA Center | Cleveland, Ohio |
| M4 Engineering, Inc. | Supporting Organization | Industry<br>Women-Owned Small Business (WOSB) | Long Beach, California |

**Primary U.S. Work Locations**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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Glenn Research Center (GRC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

**Principal Investigator:**

Myles D Baker

## Technology Areas

**Primary:**

- TX15 Flight Vehicle Systems
  - TX15.1 Aerosciences
    - TX15.1.3 Aeroelasticity